

MUSKELLUNGE

(*Esox masquinongy*)

By Maureen Mecozzi



Common Names

Muskellunge, muskie, musky, lunge, Wisconsin muskellunge, northern muskellunge, maskinonge, tiger muskellunge (used for the muskellunge x northern pike hybrid).

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*A wide, ferocious and rapacious jaw,
A vast, insatiate and expansive craw;
Your chiefest aim and wish
Is to combine in one all smaller fish.*

— Wilcox

Meet the muskellunge — a lean, mean fightin' machine that's the most sought-after trophy fish in Wisconsin. Named the official state fish in 1955, this ferocious member of the pike family is often implicated in fish stories as "the one that got away." Legends about Old Sawtooth, Big Max, the Terminator, Scarface and other monster muskellunge lurking in Wisconsin lakes are told by seasoned northwoods veterans to wide-eyed novice anglers. The feared muskellunge has even been the star of a full-length feature film entitled *Muskie Madness*. (The title was later changed to the less-ambiguous *Blood Hook*.)

The muskellunge also plays a starring role in Wisconsin's tourism industry. Wisconsin offers

some of the best muskellunge fishing on the planet; yet it still takes the average angler more than 100 hours to catch a legal muskellunge. Millions of dollars are spent at lodges, resorts, restaurants, service stations and sporting goods stores around the state every year by those in pursuit of the elusive fish.

Why do some anglers forsake all other fish for just one rendezvous with a muskellunge? Because having a muskellunge on the other end of the line is the aquatic equivalent of having a tiger by the tail. The muskellunge will confound the angler with its aerial acrobatics, one moment leaping completely out of the water to shake the hook; the next, lying still on the bottom like an unyielding snag. These famous fighters (once hooked, they may take over an hour to land) have been known to drag the line underneath the boat and wrap it around the nearest submerged tree stump. They will crack rods, strip reels, bend hooks, mutilate the bait and do whatever else they can to escape. Hooking a muskellunge is a first-class fresh-water thrill no angler will ever forget.

Identification

Muskellunge are hard-muscled, tube-shaped fish with bodies about six times as long as they are deep. The **dorsal** (on the back) and the **anal** (behind the anus) **fins** set close to the **caudal** (tail) **fin** allow muskellunge to swim swiftly through the water and give the fish a torpedo-like appearance. Once a muskellunge opens its mouth, the comparison becomes frighteningly clear.

The muskellunge's flat, duckbill snout is creased by a mouth that extends halfway around the head. Open this enormous mouth and you'll find large, strong **canines** (conical, pointed teeth) on the lower jaw and short, sharp, brushlike teeth on the roof of the mouth and tongue. (Anglers should be very careful when removing a hook from a muskellunge's mouth; the fish may mistake fingers for additional bait.) Muskellunge vary greatly in color and markings, depending on the clarity and color of their home waters — a fact which has caused fish biologists to recognize three subspecies of *E. masquinongy*. Muskellunge, however, are the only members of the pike family marked with dark vertical bars or spots on a light background (Fig. 1).

The back, head and upper sides of muskellunge range from an iridescent green-gold to light brown; often no dark markings are visible on silver individuals or on very large fish. Muskellunge have cream-colored or pearly-white bellies with small gray or brown spots; long, deeply forked, green to rust-colored caudal fins with sharply pointed tips; and green to rust-colored pointed **pectoral** (on the side behind the gills) and **pelvic** (on the belly) **fins**. The fins are spotted, and the spots are more prominent on the unpaired fins.

With its lack of scales on the lower part of the **operculum** (gill cover) and on the lower half of the cheek, the muskellunge may be easily distinguished from its close relative, the northern pike (*Esox lucius*). The muskellunge has six to nine pores on each side of the lower jaw, while the pike has five to seven. A cross of northern pike males and muskellunge females produces a hybrid known as the tiger muskellunge. "Tigers" have irregular light vertical bands on a dark background; rounded caudal, pectoral and pelvic fins; five to seven pores on each side of the lower jaw; and fully or partially scaled cheeks and partially scaled operculums (Fig. 1).

Distribution

The lakes and rivers of Wisconsin's north are the natural home for muskellunge, but fish stocking has expanded the muskellunge's original range into the southern part of the state. About 25 percent of Wisconsin's muskellunge population has been established through stocking.

The heaviest concentrations of muskellunge are found in lakes in the headwater regions of the Chippewa, Flambeau and Wisconsin rivers. More than 700 lakes and 48 streams located in 48 counties have muskellunge populations stable enough for fishing. The tiger muskellunge frequently is stocked in central and southern Wisconsin waters beyond the true muskellunge's natural range (Fig. 2).

Muskellunge populations consist of only a few individuals per acre, but the human population consists of many individuals per acre — hundreds of whom do their best each season to hook one of Wisconsin's most prized fish. Consequently, almost all muskellunge lakes must be stocked to provide continued opportunities for good muskellunge fishing.

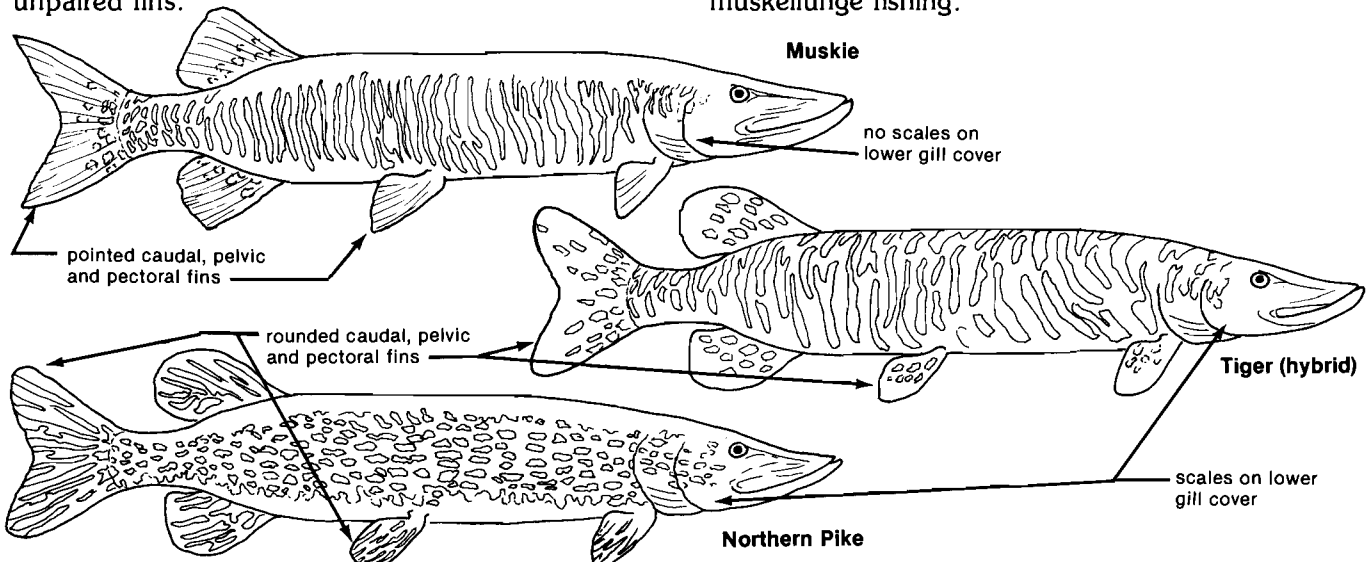


Fig. 1. Comparison between muskellunge and northern pike.

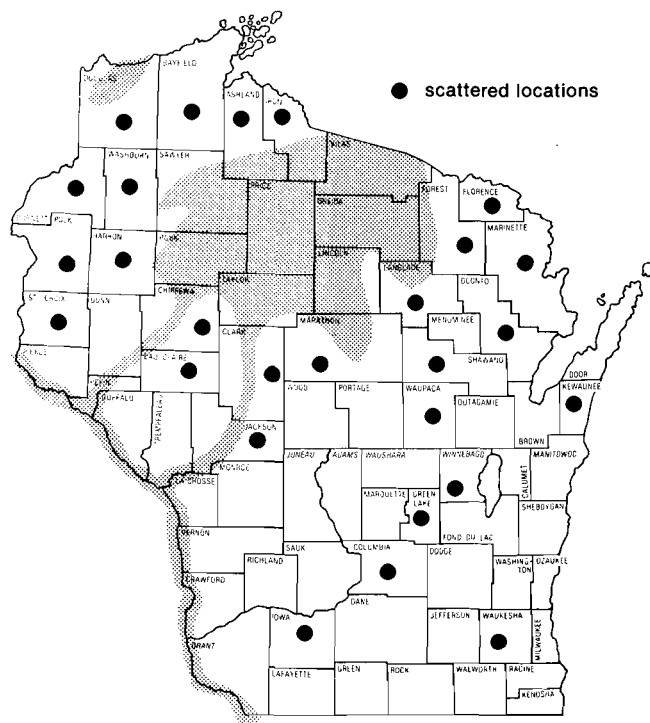


Fig. 2. Generalized distribution of muskellunge in Wisconsin.

Habits and Habitat

The muskellunge is a solitary fish that stays close to its home range, roaming only when food is in short supply. It prefers larger lakes that have both deep and shallow basins and large beds of aquatic plants such as arrowleaf, cattail, pickerel weed, and water lilies, and medium to large rivers with deep pools and slow-moving water. The fish is occasionally found in very clear lakes with few weeds. Most comfortable in cool water temperatures (33 to 78° F.), the muskellunge can withstand temperatures up to 90° F for short periods.

Lurking around stumps, rocky ledges or shoals, hiding among broadleaved pond weeds or other vegetation, the sedentary muskellunge waits patiently to attack: As soon as a fish (any species will do, from gamefish to minnows to other muskellunge, with suckers and perch particular favorites) swims into view, the muskellunge strikes, impaling the prey sideways on its large canines, then rotating the fish and swallowing it head first. Muskrats, ducks, shrews, mice and frogs also appear in the stomachs of muskellunge from time to time. Muskellunge feeding habits are generally unpredictable.

There appears to be a direct relation between size of muskellunge and the size of the food fish they eat. The growth of larger muskellunge may be impaired if food of adequate size is not available, in spite of large numbers of smaller food fishes.

This superlative predator depends primarily on sight to capture prey. Muskellunge have difficulty feeding in waters where turbidity (murkiness caused by solids suspended in water) has increased from pollution or too much disruption by bottom-feeding fish species.

Life cycle

Muskellunge spawn from mid-April to late May, when the water temperature rises to between 50 and 60° F. The males and females seek shallow bays with muck bottoms covered by dead vegetation, swimming side by side over several hundred yards of shoreline and shedding eggs and milt (sperm) simultaneously at irregular intervals. Females will lay between 22,000 to 180,000 eggs, with larger females producing greater numbers of larger eggs. Spawning continues for several days but seldom lasts more than a week; when it's over, the adults leave the area, providing no parental care. Muskellunge return to the same area each year to spawn.

The clear, amber-colored eggs hatch in about two weeks, and the fry (young fish) grow to seven to 13 inches by the end of the summer. The fry begin feeding on zooplankton (microscopic aquatic animals) the day after they hatch; after a few more days, they prefer to eat live fish.

The muskellunge grows most rapidly during the first three years of life. Males reach maturity at four to five years, when they are 28 to 31 inches long; females mature at five to seven years, at 30 to 36 inches. On average, most muskellunge live to be about eight years old, although some 18- and 19-year-old fish have been caught.

Age (years)	Length (inches)	Weight (pounds)
2	18.4	1.4
4	23.1	5.8
7	34.5	11.8
9	41.6	21.3
12	43	25

Very young muskellunge are preyed upon by northern pike, yellow perch, bass, sunfish, certain aquatic insects and occasionally, other muskellunge; older fish have no aquatic predators, but may fall victim to disease, large birds of prey, or people. While young muskellunge acquire the noted stealth of the adults early on, it doesn't always work to their advantage: The young fish may neglect to note the presence of predators while they remain motionless in the water for 15 minutes or longer, concentrating intently on potential prey.

Fishing for muskellunge

Patience is probably the most important item in a muskellunge angler's tackle box. Other elements of traditional muskellunge gear include a heavy bait-casting rod; substantial level-wind reel; 20-35 pound test line; and a variety of large artificial lures such as plugs, bucktail spinners, and spoons (Fig. 3). Some anglers prefer to cast or troll with live bait — usually a sucker 10-14 inches long.

Muskellunge lurk near the drop-offs from rock or sand bars in the middle of lakes; along weed beds; in small weed-covered bays; and in shady waters close to shores that are fringed with overhanging trees. Muskellunge generally strike a bait that has considerable "action," so keep the bait moving and don't let it rest. When a muskellunge hits, set the hook immediately and firmly in its hard, bony jaws, keep a taut line, and hold on for the ride of your life — you might have a fish larger than the 69-pound, 11 ounce Wisconsin record muskellunge caught in the Chippewa Flowage in 1952, or the world record muskellunge, just an ounce shy of 70 pounds, hooked in the St. Lawrence River in 1957!

Most Wisconsin anglers indulge in muskellunge mania through "catch and release." Simply put, you catch the fish and let it go, to be caught again some other day by an equally fortunate angler. You'll be able to enjoy hooking Wisconsin's most fearsome fish — and with a camera, your fishing companions can take a quick snapshot to support the best "believe it or not" fish story you'll ever tell. To catch and release, don't land the fish; reel it in next to the side of the boat and remove the hook as gently as possible with pliers, or cut the hook off with a wire cutter. (This may involve sacrificing a favorite lure, but isn't a great moment to remember worth a bit of metal and yarn?)

If you plan to land a trophy muskellunge, be sure to have a large landing net, gaff hooks or a club ready to subdue the fish. Trophy specimens to be mounted should be frozen as soon as possible.

A word of caution to humans that feed on the muskellunge: Some larger, older muskellunge are contaminated with PCBs (polychlorinated biphenyls), pesticides and mercury. Because they are predators at the top of the food chain, muskellunge accumulate toxins in their bodies as they feed on smaller fish which contain trace amounts of contaminants. DNR publishes a Fish Consumption Advisory (notice) every six months listing waters that contain muskellunge unsafe to eat.

Management practices

DNR stocks about 130,000 true muskellunge and 20,000 tiger muskellunge fingerlings each year. Raising these voracious eaters is a costly task: it takes three and a half to five pounds of live fish food to produce a pound of flesh on a muskellunge. Nevertheless, the great popularity of the species dictates that every effort be made to provide enough muskellunge for sport fishing.

Unfortunately, the mortality rate of stocked fingerlings is high. Twenty to 80% of the young fish will die within three weeks of stocking, usually by predation from other fish species.

The muskellunge faces a serious challenge from the northern pike. Lakes that once exclusively contained muskellunge are now dominated by northern pike, and the muskellunge's reproductive success has been reduced drastically in these waters.

Environmental concerns

Good spawning habitat and clear, clean water are essential to the health of Wisconsin's muskellunge populations. Dredging, shoreline development, siltation and pollution must be controlled to prevent further erosion of muskellunge waters.

For information on bag limits, legal size and seasons for muskellunge, pick up a copy of Wisconsin's fishing regulations at the nearest DNR office.

Additional reading

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McClane's **New Standard Fishing Encyclopedia and International Angling Guide**, Holt, Rinehart, and Winston, New York, 1974.

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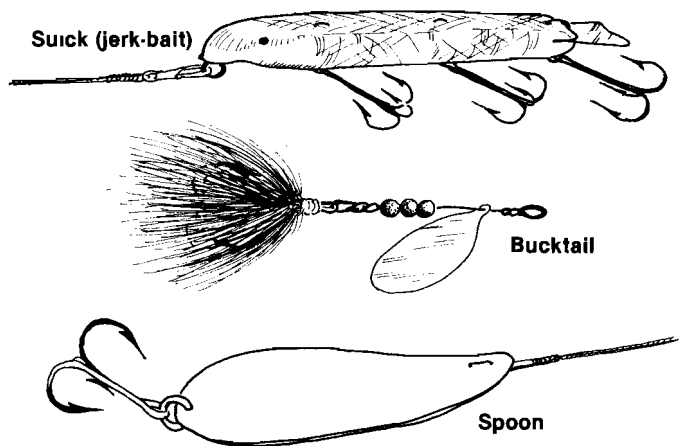


Fig. 3. Some common artificial lures used to catch muskies.